

REMARKS

Claims 1-3, 5, 8-10 and 13-26 are all the claims pending in the application.

Claim Rejections - 35 U.S.C. § 112, First Paragraph

The Examiner has rejected claims 1, 3-5, 8-10 and 13-26 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner alleges that the claims were substantially amended without any explanation thereof and with no indication of support.

In response, Applicants submit herewith an annotated listing of the claims which provide support for the previously submitted amendments. Additionally, Applicants submit that these annotations are not inclusive of all support provided for each feature recited in the claims and, additionally, are for purposes of illustration and not intended to limit the terms recited in the claims in any way.

Claim 1 - A sensor adapted to measure the concentration or presence/absence of carbon dioxide in respiratory gas from a living body, comprising:

- a light-emitting light element operable to emit light; (light emitting element 2 of FIG. 1)
- a light-receiving element adapted to receive the light emitted from the light-receiving element; (light receiving element 6 of FIG. 1)
- a support member supporting the light-emitting element and the light-receiving element such that they are opposed to each other (FIG. 1) on a single optical axis, the support member being adapted to be located below the nostrils of a living body; (sensor main unit 1 of FIG. 1))

a respiratory flow path formed in the support member so as to cross over the optical axis and adapted to allow the respiratory gas to pass therethrough (respiratory flow path 4 of FIG. 1) when the support member is located below the nostrils of the living body; and

a first guide member adapted to introduce the respiratory gas from the nostrils to the respiratory gas flow. (items 31 and 32 of FIG. 6).

Claim 3 - The sensor as claimed in claim 1, further comprising ear straps adapted to be hooked around ears of the living body for holding the supporting member below the nostrils. (item 1, FIG. 3).

Claim 4 - The sensor as claimed in claim 3, wherein the ear straps include at least one of a first lead wire for supplying power to the light-emitting element and a second lead wire for outputting a signal detected by the light-receiving element.

Claim 5 - The sensor as claimed in claim 1, further comprising an engagement member provided on the support member and adapted to be engaged with a tubular member for supplying oxygen to the nostrils.

Claim 8 - The sensor as claimed in claim 1, wherein the first guide member has nasal prongs adapted to be inserted into the nostrils for introducing the respiratory gas from the nostrils to the respiratory flow path. (items 31 and 32 of FIGS. 6, 10 and 11)

Claim 9 - The sensor as claimed in claim 1, further comprising a second guide member adapted to guide the respiratory gas from a mouth of the living body to the respiratory flow path. (FIG. 9; p. 18-20)

Claim 10 - A sensor adapted to measure a concentration or presence/absence of carbon dioxide in respiratory gas from a living body, comprising:

a light-emitting element operable to emit light; (light emitting element 2 of FIG. 1)

a light-receiving element adapted to receive the light emitted from the light-emitting element; (light receiving element of FIG. 1)

an oxygen mask adapted to cover a part of a face of the living body to supply oxygen to the living body; (FIG. 8; oxygen mask 20)

a support member supporting the light-emitting element and the light-receiving element such that they are opposed to each other on a single optical axis, the support member being disposed on an exterior surface of the oxygen mask; and (FIG. 9; p. 18-20)

a respiratory flow path formed in the support member so as to cross over the optical axis and so as to communicate with an interior of the oxygen mask, the respiratory flow path being adapted to allow the respiratory gas to pass therethrough when the oxygen mask covers the part of the face (FIG. 9; p. 18-20).

Claim 13 - A sensor adapted to measure a concentration or presence/absence of carbon dioxide in respiratory gas from a living body, comprising:

a light-emitting element operable to emit light; (light emitting element 48 of FIG. 12)

a light-receiving element adapted to receive the light emitted from the light-emitting element; (light receiving element 52 of FIG. 12)

an airway case adapted to be located below nostrils of the living body (item 41 of FIG. 12) and having a pair of openings opposing to each other (FIG. 14)

a respiratory flow path formed in the airway case so as to extend between the openings, and adapted to allow the respiratory gas to pass therethrough when the airway case is located below the nostrils of the living body; (FIG. 12)

a pair of transparent thin films respectively sealing the openings; and (item 44 of FIG. 14) a pair of supporting members respectively supporting the light-emitting element and the light-receiving element such that they are opposed to each other on a single optical axis through the openings (FIG. 2B).

Claim 14 - The sensor as claimed in claim 13, wherein the thin films are anti-fogging films. (p. 21 of the specification)

Claim 15 - The sensor as claimed in claim 13, wherein said supporting members are removably engaged with the light emitting element and the light-receiving element respectively. (p. 21 of the specification)

Claim 16 - The sensor as claimed in claim 13, further comprising:
a guide member adapted to introduce the respiratory gas from the nostrils into the respiratory flow path. (item 43; FIG. 13)

Claim 17 - The sensor as claimed in claim 13, further comprising a guide member adapted to introduce the respiratory gas from a mouth of the living body into the respiratory flow path. (item 59; FIG. 14)

Claim 18 - The sensor as claimed in claim 1, wherein the first guide member is removably engaged with the support member. (FIG. 7A; items 31 and 32)

Claim 19 - The sensor as claimed in claim 16, wherein the guide member has nasal prongs adapted to be inserted into the nostrils for introducing the respiratory gas from the nostrils to the respiratory flow path. (FIG. 13; item 42)

Claim 20 - The sensor as claimed in claim 16, wherein the guide member is removably engaged with the airway case. (p. 20 of the specification)

Claim 21 - An airway case adapted to be located below nostrils of a living body when a concentration of presence/absence of carbon dioxide in respiratory gas from a living body is measured with a light-emitting element emitting light and a light-receiving element receiving the light emitted from the light-emitting element, the airway of the case comprising:

- a pair of openings opposing to each other; (FIGS. 13 & 14)
- a respiratory flow path extending between the openings, and adapted to allow the respiratory gas to pass therethrough when the airway case is located between the nostrils of the living body; (FIG. 12)
- a pair of transparent thin films respectively sealing the openings; and (item 44; FIG. 14)
- a pair of supporting members each of which is adapted to removably engage with one of the light-emitting element and the light-receiving element such that they are supported so as to oppose each other on a single optical axis through the openings. (items 45b; FIG. 12; p. 23, lines 8-13).

Claim 22 - The airway case as claimed in claim 21, wherein the thin films are anti-fogging films. (p. 21, line 2)

Claim 23 - The airway case as claimed in claim 21, further comprising:
a guide member adapted to introduce the respiratory gas from the nostrils into the respiratory flow path. . (FIG. 13; item 43)

Claim 24 - The airway case as claimed in claim 21, further comprising:
a guide member adapted to introduce the respiratory gas from a mouth of the living body into the respiratory flow path. (item 59; FIG. 14)

Claim 25 - The airway case as claimed in claim 23, wherein the guide member has nasal prongs adapted to be inserted into the nostrils for introducing the respiratory gas from the nostrils into the respiratory flow path. (FIG. 7A; items 31 and 32)

Claim 26 - The airway case as claimed in claim 23, wherein the guide member is removably engaged with the airway case. (p. 20 of the specification)

Thus, in view of the support provided herein for the claims rejected under 35 U.S.C. § 112, first paragraph, Applicants respectfully request that the Examiner withdraw this rejection.

New Claims

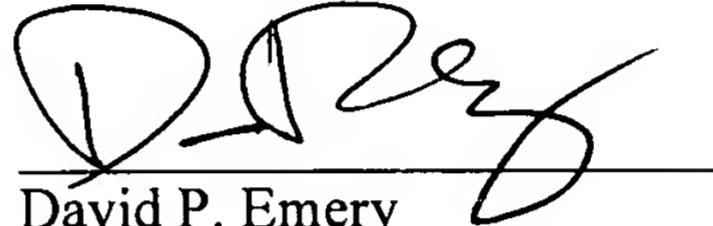
New claims 27 and 28 are added by this Amendment. Support for new claims 27 and 28 is provided, at least, by FIG. 13 of the present specification. Claims 27 and 28 are submitted to be allowable, at least because of their dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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23373
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Date: January 4, 2007